

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NUMBER 90-015

SITE CLEANUP REQUIREMENTS FOR:

CHEVRON USA, INC.
TERMINAL #1001272
1020 BERRYESSA ROAD
SAN JOSE, SANTA CLARA COUNTY

FINDINGS

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. SITE DESCRIPTION Chevron USA, Inc. (Chevron) (hereinafter referred to as the discharger) operates a transfer station at 1020 Berryessa Road in San Jose. The transfer station delivers refined motor fuels throughout the San Francisco Bay Area. The terminal has been in operation since the mid-1960's. The site has 15 above-ground storage tanks and two below-ground storage tanks holding a variety of fuels and oils including regular, unleaded and supreme gasoline, diesel, heating fuel, motor oil, fuel additive and transmix. A large fueling island and several oil/water separators exist onsite.
2. REGULATORY STATUS Chevron is a discharger because of their ownership and occupancy of the Site during which releases of petroleum hydrocarbons (HCs) have occurred. The HCs have affected the groundwater beneath the site and have migrated offsite. This Order supersedes Cleanup and Abatement Order No. 89-046 previously adopted for this site.
3. SITE HISTORY Several spills and leaks were reported for this site between February, 1984 and July, 1986. Reports of these spills and leaks were based on observation or detection of HCs in soil and groundwater monitoring wells. The storage tanks and oil water separators may be sources for the leaks.
4. HYDROGEOLOGY Subsurface investigations have identified two water-bearing zones beneath the site. The upper zone consists of sandy deposits from about 18 to 30 feet below the ground surface and is underlain by 25 to 50 feet of clay. Groundwater levels in this zone were approximately 17 feet below the ground surface in 1986, and currently range from about 19 to 25 feet below ground surface. Groundwater in the upper water-bearing zone flows generally to the

west. The deeper zone consists of sandy deposits from 3 to 20 feet thick, based on information from a single deeper well (B-1). The groundwater level in this well was approximately 23 feet below the ground surface in 1986, and was approximately 27 feet below ground surface in 1988. The direction of flow in the deeper zone is presumed to move in a westerly direction (based on regional drainage patterns and water levels recorded at the adjacent Solvent Service, Inc. (SSI) site). A channel deposit of coarse-grained sand and gravel extends beneath Berryessa Road to the west and along the southwestern perimeter of SSI. The channel appears to have acted and still may be acting as a conduit for the HC plume due to its high permeability. Current water levels in this zone are below the base of the channel.

5. ADJACENT SITE Solvent Service Inc. (SSI) operates a treatment facility at 1021 Berryessa Road, San Jose, Santa Clara County. The facility treats and reclaims industrial solvents and corrosive liquids. This site is a State Superfund site, proposed for the Federal National Priorities List, and is involved in the remedial investigation/feasibility study process. Subsurface investigations at this site have revealed the presence of volatile organic chemicals (VOCs) in soil and groundwater beneath the site. Dissolved and separate-phase HCs which appear to have migrated from Chevron have also been detected at SSI and are commingled with the VOCs along SSI's southwest property boundary and offsite to the southwest. Several interim remedial actions for the VOCs at SSI's site have been completed or are currently being implemented.
6. SUBSURFACE INVESTIGATIONS Subsurface investigations were conducted at the Site, beginning in 1983, and included the following activities: installation of 38 groundwater monitoring wells, drilling of several soil borings, subsurface sampling and analyses, aquifer testing, a soil gas survey, and soil vent performance testing. Six of the monitoring wells became useless due to dewatering and were properly destroyed by Chevron under supervision of the Santa Clara Valley Water District. The results of these investigations indicate that HCs have been released from and are present beneath this Site.

Separate-phase HCs have repeatedly been detected in groundwater monitoring wells onsite since 1984 and offsite since 1987. Dissolved HCs have been repeatedly detected in groundwater monitoring wells onsite since 1984 and offsite since 1986. Benzene has been detected up to the following concentrations: 18,000 ppb in groundwater onsite, 6,100 ppb in groundwater offsite, and 290 ppm in soil onsite.

7. COMMINGLED PLUME Based on available information the Board believes that the discharger and the SSI site located at 1021 Berryessa Road are responsible for the plume of commingled pollutants along the southwest boundary of SSI and offsite to the southwest of SSI. The Board intends to revise

the Site Cleanup Requirements for SSI to include investigation and remediation of pollutants commingled with pollutants from Chevron. The Board encourages the discharger and SSI to jointly investigate and propose remedial measures for the merged plume area. However, if a cooperative approach cannot be arranged the discharger is still expected to comply with this Order. This finding (with revisions necessary for applying it to SSI) will be included in SSI's revised Site Cleanup Requirements, which are expected to be adopted in June, 1990.

8. INTERIM REMEDIAL ACTIONS Interim remedial actions completed include removal of underground storage tanks. A Workplan describing proposed interim remedial actions to address onsite pollution was submitted September 30, 1989 and accepted. These interim remedial actions are currently being installed and include extraction wells to control migration of HCs onsite, extraction wells to remove separate-phase HCs onsite, in-situ soil venting to remediate vadose zone soils onsite, treatment of groundwater and separate-phase HCs by oil/water separation, air stripping, and carbon adsorption. The recovered HCs will be recycled, and treated groundwater will be used for onsite irrigation and the remainder will be discharged to the storm drain under an NPDES permit. Additional interim remedial actions are needed to address offsite pollution and the merged plume of pollutants.
8. SCOPE OF THIS ORDER This Order contains tasks for completion of groundwater characterization; implementation and evaluation of interim remedial actions for onsite and offsite pollution; and proposal, implementation, and evaluation of final cleanup actions. These tasks are necessary to alleviate the threat to the environment posed by the migration of the groundwater plume of pollutants and to provide a substantive technical basis for designing and evaluating the effectiveness of final cleanup alternatives. Adoption of this order rescinds Order 89-046 previously adopted for this Site.
9. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives and beneficial uses for South San Francisco Bay and contiguous surface and groundwaters.
10. The existing and potential beneficial uses of the groundwater underlying and adjacent to the facility include:
 - a. Industrial process water supply
 - b. Industrial service water supply
 - c. Municipal and Domestic water supply
 - d. Agricultural water supply

11. The dischargers have caused or permitted, and threaten to cause or permit waste to be discharged or deposited where it is or probably will be discharged to waters of the State and create or threaten to create a condition of pollution or nuisance.
12. This action is an order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the CEQA pursuant to Section 15321 of the Resources Agency Guidelines.
13. The Board has notified the dischargers and interested agencies and persons of its intent under California Water Code Section 13304 to prescribe Site Cleanup Requirements for the discharge and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.
14. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the discharger shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous materials in a manner which will degrade water quality or adversely affect the beneficial uses of the waters of the State is prohibited.
2. Further significant migration of pollutants through subsurface transport to waters of the State is prohibited.
3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of pollutants are prohibited.

B. SPECIFICATIONS

1. The storage, handling, treatment or disposal of soil or groundwater containing pollutants shall not create a nuisance as defined in Section 13050(m) of the California Water Code.
2. The dischargers shall conduct site investigation, monitoring and remediation activities as needed to define the current local hydrogeologic conditions, to define the lateral and vertical extent of soil and groundwater pollution, and to remediate soil and groundwater pollution.

Should monitoring results show evidence of pollutant migration, additional characterization and remediation of pollutant extent may be required.

3. The cleanup goal for source-area soils is 1 ppm for total VOCs. Alternate cleanup goals may be proposed based on site specific data. If higher levels of VOCs are proposed, the discharger must demonstrate that cleanup to 1 ppm total VOCs is infeasible, that the alternate levels will not threaten the quality of waters of the State, and that human health and the environment are protected. Final cleanup goals for source-area soils must be acceptable to the Executive Officer. If any chemicals are left in the soil some followup groundwater monitoring will be required.
4. Final cleanup levels and goals for polluted groundwater, onsite and offsite, shall be background water quality if feasible, but shall not be greater than the DHS drinking water Action Level (AL) or Maximum Contaminant Level (MCL), whichever is more stringent. If an AL or MCL has not been established, the level shall be in accordance with the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California", shall be based on an evaluation of the cost, effectiveness and a risk assessment to determine affect on human health and the environment, and shall be approved by the Board. These levels shall have a goal of reducing the mobility, toxicity, and volume of pollutants.
5. If groundwater extraction and treatment is considered as an alternative, the feasibility of water reuse, reinjection, and disposal to the sanitary sewer must be evaluated. Based on the Regional Board Resolution 88-160, the discharger shall optimize, with a goal of 100%, the reclamation or reuse of groundwater extracted as a result of cleanup activities. The discharger shall not be found in violation of this Order if documented factors beyond the discharger's control prevent the discharger from attaining this goal, provided the discharger has made a good faith effort to attain this goal. If reuse or reinjection is part of a proposed alternative, an application for Waste Discharge Requirements may be required. If discharge to waters of the State is part of a proposed alternative, an application for an NPDES permit must be completed and submitted, and must include the evaluation of the feasibility of water reuse, reinjection, and disposal to the sanitary sewer.

C. PROVISIONS

1. The discharger shall comply with the Prohibitions and Specifications above, in accordance with the following time schedule and tasks:

TASKS AND COMPLETION DATES

- a. TASK: SUBMIT SITE SAFETY, SAMPLING AND ANALYSIS, AND QUALITY ASSURANCE PROJECT PLANS:

Submit updated Site Safety, Sampling and Analysis, and Quality Assurance Project Plans acceptable to the Executive Officer, and that consider CERCLA regulations and guidance documents for format and content.

COMPLETION DATE: July 31, 1990

- b. ONSITE TASKS:

1. EVALUATE EFFECTIVENESS OF ONSITE INTERIM REMEDIAL ACTIONS AND PROPOSE MODIFICATIONS TO THE ACTIONS:

Submit a technical report acceptable to the Executive Officer which evaluates the effectiveness of the onsite interim groundwater remediation system. Such an evaluation shall include, but need not be limited to, an estimation of the flow capture zone of the extraction wells, establishment of the cones of depression by field measurements, and presentation of extraction rates, water levels, and chemical monitoring data.

COMPLETION DATE: August 31, 1990

2. COMPLETE IMPLEMENTATION OF MODIFICATIONS TO ONSITE INTERIM REMEDIAL ACTIONS:

Submit a technical report acceptable to the Executive Officer documenting the implementation of modifications to onsite interim remedial actions, as proposed and accepted by the Executive Officer in accordance with task 1.b.1. above.

COMPLETION DATE: January 31, 1991

- c. OFFSITE TASKS:

1. SUBMIT A WORKPLAN TO ADDRESS THE COMMINGLED PLUME:

Submit a technical report acceptable to the Executive Officer which contains a workplan for investigations and remedial actions for the commingled pollutant plume. This report shall also inform the Executive Officer of the status of coordination of these investigations and remedial

actions with SSI.

COMPLETION DATE: May 31, 1990

2. COMPLETE OFFSITE GROUNDWATER POLLUTION CHARACTERIZATION:

Submit a technical report acceptable to the Executive Officer containing the results of a hydrogeologic investigation to determine the extent of offsite groundwater pollution. This report must include definition of the extent of offsite pollution to the southeast of the site (in the vicinity of well 15), to the southwest of the site (adjacent to oil/water separator C), and to the southwest of the HC plume beneath SSI.

COMPLETION DATE: October 31, 1990

3. EVALUATE REMEDIAL ALTERNATIVES FOR OFFSITE SOIL AND GROUNDWATER POLLUTION AND PROPOSE INTERIM REMEDIAL ACTIONS:

Submit a technical report acceptable to the Executive Officer which evaluates remedial alternatives in order to select interim remedial actions for offsite soil and groundwater pollution, and which includes a plan and schedule for implementation of the proposed offsite interim remedial actions.

COMPLETION DATE: April 30, 1991

4. COMPLETE IMPLEMENTATION OF OFFSITE INTERIM REMEDIAL ACTIONS:

Submit a technical report acceptable to the Executive Officer documenting the implementation of offsite interim remedial actions as proposed and accepted by the Executive Officer in accordance with task 1.c.2. above.

COMPLETION DATE: November 30, 1991

5. EVALUATE EFFECTIVENESS OF OFFSITE INTERIM REMEDIAL ACTIONS AND PROPOSE MODIFICATIONS TO THESE ACTIONS:

Submit a technical report acceptable to the Executive Officer which evaluates the effectiveness of the offsite interim remedial actions and proposes modifications.

COMPLETION DATE: May 31, 1992

6. COMPLETE IMPLEMENTATION OF MODIFICATIONS TO
OFFSITE INTERIM REMEDIAL ACTIONS:

Submit a technical report acceptable to the Executive Officer which documents implementation of modifications to offsite interim remedial actions as proposed and accepted by the Executive Officer in accordance with task 1.c.4. above.

COMPLETION DATE: November 30, 1992

d. FINAL CLEANUP TASKS:

1. PROPOSE FINAL CLEANUP OBJECTIVES AND ACTIONS:

Submit a technical report acceptable to the Executive Officer that proposes final cleanup objectives and actions for all onsite and offsite areas where soil and groundwater pollution was detected. This report shall contain the results of the remedial investigation; an evaluation of the installed interim remedial measures; a feasibility study evaluating alternative final remedial measures; the recommended measures necessary to achieve final cleanup objectives; and the tasks and time schedule necessary to implement the recommended final remedial measures.

COMPLETION DATE: April 30, 1993

2. COMPLETE IMPLEMENTATION OF FINAL CLEANUP
ACTIONS:

Submit a technical report acceptable to the Executive Officer documenting the implementation of final cleanup actions as proposed and accepted by the Executive Officer in accordance with Task 1.d.1. above.

COMPLETION DATE: 60 days after implementation of the actions as proposed and accepted by the Executive Officer in accordance with Task 1.d.1. above.

3. SUBMIT FIVE YEAR STATUS REPORT:

Submit a technical report acceptable to the Executive Officer containing the following: 1) results of any additional investigative work completed; 2) an evaluation of the effectiveness of installed final cleanup measures; 3) additional recommended measures to achieve final cleanup objectives

and goals, if necessary; 4) a comparison of previous expected costs with the costs incurred and projected costs necessary to achieve cleanup objectives and goals; 5) the tasks and time schedule necessary to implement any additional final cleanup measures; and 6) recommended measures for reducing Board oversight. This report shall also describe the reuse of extracted groundwater, evaluate and document the removal and/or cleanup of polluted groundwater, and evaluate and document the removal and/or cleanup of polluted soil. If safe drinking water levels have not been achieved through continued groundwater extraction and/or soil remediation, this report shall also contain an evaluation addressing whether it is technically feasible to achieve drinking-water quality onsite, and if so, a proposal for procedures to do so.

COMPLETION DATE: January 31, 1995

2. The submittal of technical reports evaluating interim and final remedial measures will include a projection of the cost, effectiveness, benefits, and impact on public health, welfare, and environment of each alternative measure. The remedial investigation and feasibility study shall consider the guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300); Section 25356.1 (c) of the California Health and Safety Code; CERCLA guidance documents with reference to Remedial Investigation, Feasibility Studies, and Removal Actions; and the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California".
3. If the discharger is delayed, interrupted or prevented from meeting any of the completion dates specified in this Order, the discharger shall promptly notify the Executive Officer prior to the due date.
4. The discharger shall submit to the Regional Board acceptable reports on compliance with the requirements of this Order, and acceptable activity monitoring reports that contain descriptions and results of work performed. These reports are to be submitted according to a program prescribed by the Regional Board and outlined below.
 - a. **ON A QUARTERLY BASIS**, technical reports on status of compliance with this Order shall be submitted to the Board, commencing on April 15, 1990. Each **quarterly status** report shall cover the previous calendar quarter and shall include, but are not limited to, the following:
 - 1) Summary of work completed since submittal of the previous report,

and work projected to be completed by the time of the next report.

2) Identification of any obstacles which may threaten compliance with the schedule of this Order and what actions are being taken to overcome these obstacles.

3) Written notification which clarifies the reasons for non-compliance with any requirement of this Order, and which proposes specific measures and a schedule to achieve compliance. This written notification shall identify work not completed that was projected for completion, and shall identify the impact of non-compliance on achieving compliance with the remaining requirements of this Order.

b. **ALSO, ON A QUARTERLY BASIS**, technical reports on soil and groundwater monitoring shall be submitted to the Board, commencing on April 15, 1990, and covering the previous calendar quarter. Each **quarterly monitoring** report shall include, but need not be limited to, the following information:

1) Results of quarterly free product measurements, or, if no free product is found, water quality sampling analyses for all onsite and offsite wells, and for SSI wells 38A, 75A, 83A, 84A, 85A, 86A, 87A, 88A, 89A, 96A using analytical method 5030/modified 8015/8020 for Total Petroleum Hydrocarbons as Gas and Benzene, Toluene, Xylene, and Ethylbenzene, and groundwater pollution plume maps based on these results.

2) Quarterly updated water table and piezometric surface maps, based on the most recent water level measurements for all affected water bearing zones for all onsite and offsite wells. The first set of data shall be reported in the quarterly report due April 15, 1990.

3) A cumulative tabulation of volume of extracted groundwater, biannual chemical analysis results for all groundwater extraction wells, and pounds of pollutants removed.

4) A cumulative tabulation of all well construction details, and quarterly water level measurements.

5) Results of soil vapor sampling analyses, soil pollution plume maps based on these results, a cumulative tabulation of chemical analysis results for all soil vapor extraction wells, and a cumulative tabulation of pounds of chemicals removed.

6) Reference diagrams including geologic cross-sections describing the

hydrogeological setting of the Site, and appropriately scaled and detailed base maps showing the location of all monitoring wells and extraction wells, and identifying adjacent facilities and structures.

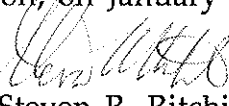
7) Identification and notification of non-compliance with groundwater monitoring requirements of this Order, as described in Provisions 4.A.2. and 4.A.3.

c. ON AN ANNUAL BASIS, technical reports on the progress of compliance with all requirements of this Order shall be submitted to the Board, commencing on January 15, 1991, and covering the previous year. Annual reports may include quarterly reports due concurrently. The progress reports shall include, but need not be limited to, progress on the site investigation and remedial actions, and operation of interim and final remedial actions and /or systems.

5. All hydrogeological plans, specifications, reports, and documents shall be signed by or stamped with the seal of a registered geologist or professional engineer, or a certified engineering geologist.
6. All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain Quality Assurance/Quality Control records for Board review.
7. The discharger shall maintain in good working order, and operate, as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this Order.
8. Copies of all correspondence, reports, and documents pertaining to compliance with this Order, shall be provided to the following agencies:
 - a. Santa Clara Valley Water District (Tom Iwamura)
 - b. Santa Clara County Health Department (Lee Esquibel)
 - c. City of San Jose (Gary Lynch)
 - d. State Department of Health Services/TSCD (Howard Hatayama)
9. The discharger shall permit the Board or its authorized representative, in accordance with Section 13267(c) of the California Water Code:
 - a. Entry upon premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept, which are relevant to this Order.

- b. Access to copy any records required to be kept under the terms and conditions of this Order.
 - c. Inspection of any monitoring equipment or methodology implemented in response to this Order.
 - d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.
10. The discharger(s) shall file a report on any changes in Site occupancy and ownership associated with the facility described in this Order.
 11. If any hazardous substance is discharged in or on any waters of the state, or discharged and deposited where it is, or probably will be discharged in or on any waters of the state, the discharger shall report such discharge to this Regional Board, at (415) 464-1255 on weekdays during office hours from 8 a.m. to 5 p.m., and to the Office of Emergency Services at (800) 852-7550 during non-business hours. A written report shall be filed with the Regional Board within five (5) working days and shall contain information relative to: the nature of waste or pollutant, quantity involved, duration of incident, cause of spill, Spill Prevention, Control, and Countermeasure Plan (SPCC) in effect, if any, estimated size of affected area, nature of effect, corrective measures that have been taken or planned, and a schedule of these activities, and persons/agencies notified.
 12. This Order supersedes the existing Order 89-46 and it is hereby rescinded with adoption of this Order.
 13. The Board will review this Order periodically and may revise the requirements when necessary.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on January 17, 1990.


Steven R. Ritchie
Executive Officer